

CLAIMS

What is claimed is:

1. A system for ultrasonically testing a tubular, comprising:
an ultrasonic test assembly, comprising:
5 a carrier unit movably positional along a surface of the tubular between
opposite ends of the tubular; and
an ultrasonic transducer mount unit movably positional along the carrier
unit to outer regions of the carrier unit extendable beyond the
opposite ends of the tubular.
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2. The system of claim 1, wherein the ultrasonic test assembly comprises a
fluid chamber formed between the ultrasonic transducer mount unit and a mount interface
of the carrier unit.
- 15 3. The system of claim 1, wherein the ultrasonic transducer mount unit has a
fluid interface between the carrier unit and mount receptacles for ultrasonic transducers in the
ultrasonic transducer mount unit.
- 20 4. The system of claim 1, wherein the ultrasonic transducer mount unit has a
solid interface between the carrier unit and mount receptacles for ultrasonic transducers in the
ultrasonic transducer mount unit.
- 25 5. The system of claim 1, wherein the ultrasonic test assembly is top-mountable
to the tubular.
6. The system of claim 1, wherein the carrier unit comprises a removable
interface member, which is movably positional along the surface of the tubular.
- 30 7. The system of claim 1, comprising a lengthwise tubular-positioning
mechanism coupled to the ultrasonic test assembly.

8. The system of claim 1, comprising a rotational drive coupleable to the tubular.
9. The system of claim 1, comprising a positioning system having a helical test
5 pattern routine.
10. A system for ultrasonically testing a tubular, comprising:
a top-mountable ultrasonic test assembly, comprising:
a fluid carrier unit, comprising:
10 a central interface portion movably positional along a surface of the
tubular between opposite ends of the tubular; and
outer carrier portions disposed about the central interface portion
and positional beyond the respective opposite ends of the
tubular; and
15 an ultrasonic transducer mount unit movably positional along the fluid
carrier unit to the outer carrier portions.
11. The system of claim 10, wherein the ultrasonic transducer mount unit
comprises receptacles for a plurality of ultrasonic transducers in different testing
20 orientations.
12. The system of claim 11, wherein the different testing orientations comprises
longitudinal, transverse, and oblique testing orientations.
- 25 13. The system of claim 10, wherein the ultrasonic transducer mount unit
comprises an ultrasonic transducer having a curved lens.
14. The system of claim 10, wherein the ultrasonic transducer mount unit
comprises an ultrasonic transducer having a piezoelectric element.

15. The system of claim 10, wherein the central interface has a removable wear member adapted to seal substantially against the surface of the tubular.

16. The system of claim 10, wherein the ultrasonic transducer mount unit is
5 mounted to a linear positioning mechanism extending lengthwise along the fluid carrier unit.

17. A method, comprising the acts of:
providing a movable tubular interface having a central portion movably positional
between opposite ends of the tubular and having outer portions disposed about the central
10 portion and positional beyond the respective opposite ends; and
movably coupling an ultrasonic test unit to the movable tubular interface on a carrier
extendable across the central and outer portions.

18. The method of claim 17, wherein the act of providing the movable tubular
15 interface comprises the act of forming a fluid testing interface with the tubular.

19. The method of claim 17, wherein the act of movably coupling the ultrasonic
test unit comprises the act of forming a fluid interface between the movable tubular interface
and ultrasonic transducers disposed in the ultrasonic test unit.

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20. A method for ultrasonically testing a tubular, comprising the acts of:
moving an ultrasonic test unit across an end of the tubular; and
progressively moving the ultrasonically test unit lengthwise across the tubular.

21. The method of claim 20, further comprising the act of continuing to move the
25 ultrasonic test unit across an opposite end of the tubular.

22. The method of claim 20, further comprising recording end and lengthwise
ultrasonic test data for the tubular.

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23. The method of claim 20, wherein the acts of moving and progressively moving comprise the act of completely testing the tubular from end to end.

24. The method of claim 20, wherein the acts of moving and progressively moving comprise the act of transmitting ultrasonic waves through an interface and into the tubular in a plurality of testing orientations.

25. The method of claim 24, wherein the act of transmitting ultrasonic waves through the interface comprises the act of transmitting the ultrasonic waves through a fluid.

26. An ultrasonically tested tubular produced by the process of claim 17.

27. A system, comprising:
means for ultrasonically testing a midsection of a tubular; and
means for ultrasonically testing an end section of the tubular.

28. The system of claim 27, wherein the means for ultrasonically testing the midsection comprise an ultrasonic testing device movable along the tubular between opposite ends of the tubular.

29. The system of claim 27, wherein the means for ultrasonically testing the end section comprise an extension mechanism adapted to move the ultrasonic testing device across each of the opposite ends.

30. An apparatus, comprising:
an ultrasonic tubular inspection unit movable lengthwise along a tubular; and
an end-crossing extension mechanism adapted to facilitate end inspection of the tubular.

31. The apparatus of claim 30, comprising a solid inspection interface engageable with a surface of the tubular.

32. The apparatus of claim 30, comprising an open-bottom fluid receptacle
5 mountable movably to a top surface of the tubular.